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DEVELOPMENT OF BIMETALS IN POLAND

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In comparison with other countries, the development of bimetal production in Poland has been very slow, even though some bimetals were produced prior to 1939. They included bimetal knives for the tobacco industry, three-layer bimetal sheets for plowshares, jackets for rifle and pistol cartridges (made from crucible, 0.08 carbon steel sheets, plated with Melchior alloy by the heat treatment method). Plating the steel cartridge jackets with Melchior alloy, which is softer than steel, protects the rifled barrel of the weapon when the cartridge is fired.

During the prewar period, the electrolytic method was also used to plate new silver and copper products with pure silver. Better results were obtained in plating the new silver than in plating copper. However, to obtain a good finish it was necessary to apply two coatings of silver.

In considering the present status of technology in bimetal production in Poland, there are several different types of plated products, even though they are not all included in current production plans.

One of Poland's metallurgical plants [not identified] produces three-layer bimetal plates for plowshares. Another plant has started producing bimetal industrial knives for the tanning, tobacco, and paper industries. These knives are made from the following bimetal standards: NW3/C12, NWVI/C12, and NZ3/C12. This plant also produces knives for chipping from Bimetal Standard NW3/C15.

Poland has an improved method of producing bimetal plates from carbon steel plated with acid-resistant steel. Poland has developed a method of producing bimetal aluminum-steel slide conductors and copper-steel conductors for the telecommunications industry. Poland is currently (1952) working on methods of

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plating steel plates on a single side with nickel, aluminum, copper, tombac, brass, or Monel alloy. A method has also been partially worked out for plating steel sheet metal on one side with nickel and on the other side with aluminum. Poland is also producing thermostatic bimetals, called thermobimetals (termobimetale). These are being produced by an improved method developed in Poland.

The following are recommendations on bimetal production:

1. Special emphasis should be placed on research aimed at developing bimetals as substitutes for alloys and metals in short supply. The state should see to it that this is taken into consideration in the research plans of the scientific institutes and engineering design offices.

2. Methods for working bimetals must be developed (cutting, shaping, pressing, and welding).

3. Means must be found for using the increasing amount of bimetal scrap.

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